

PACIFIC GAS & ELECTRIC COMPANY

PROCESS IMPROVEMENTS FOR SCHEDULING OF WORK IN MAINTENANCE & CONSTRUCTION

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Pacific Gas and Electric (PG&E) is a California-based utilities company headquartered in San Francisco. The company provides natural gas and electric services to nearly 16 million customers spanning a service territory of over 70,000 miles. The company owns and operates a vast natural gas supply network comprising nearly 50,000 miles of gas distribution and transmission pipelines.

Maintenance & Construction (M&C) is one of the key departments responsible for maintaining the integrity of PG&E's natural gas distribution assets. Within M&C, scheduling of work is a key component in prioritizing and executing work. The range of work type and volume among the various divisions created challenges in carrying out the scheduling process efficiently. This led to a lack of clarity and broad variability in the M&C scheduling process, resulting in inefficient use of crew capacity, rescheduling of jobs within the schedule, and low on-time completion rates of jobs.

In order to address the problem, the Tauber Team began with an assessment of the current scheduling process through a study of practices across six different divisions. During this phase, the team gained an understanding of the key scheduling challenges and their impact on work in the divisions. The team then created an as-is process flow to identify process improvement opportunities. Based on further analysis, recommendations were developed for the areas of crew capacity, emergency allocation, work coordination, and crew awareness. The recommendations involved accurately quantifying crew capacity, validating emergency allocations, tracking of pre-dependencies, and analyzing the correlation between crew awareness and division performance.

The tools and process changes recommended by the team were implemented and tested through a 6-week pilot at the San Jose division. The pilot test resulted in a 13% increase in the accuracy of capacity planning and a 9% increase in the number of jobs ready for execution. In order to aid stakeholders in rolling out our recommendations to other divisions, the team developed a comprehensive implementation plan. A system-wide implementation of the recommendations is projected to save PG&E \$400K-\$600K annually. In addition, future recommendations identified to address other process issues that were identified can potentially save the company \$1.6M per year.